

I. Executive Summary

The Maine Public Utilities Commission Energy Programs Division in partnership with MaineHousing is pleased to present this Retrofit Ramp-up proposal on behalf of the State of Maine. This grant will allow us to significantly accelerate our weatherization programs and help us achieve the goal announced by the Governor of Maine and affirmed by the State Legislature of *weatherizing all homes and 50% of businesses by 2030*.

Maine Has Already Established The Foundation For The Retrofit Ramp-Up.

Two of the most significant barriers to homeowner participation in retrofit programs are homeowner inconvenience and upfront cost to the homeowner. To complete a retrofit a homeowner must arrange an audit; identify a contractor; make several appointments; choose among confusing retrofit possibilities; and then identify funding to pay for it all. And despite convincing evidence, a homeowner also faces uncertainty about whether the investment in all these steps will pay off in the energy savings as projected.

Driven by the most acute home heating efficiency needs in the country, Maine has already analyzed these barriers and created solutions. Our Maine Home Performance Program, launched on December 1, 2009, offers a one-stop-shopping approach to delivering a cost effective audit/retrofit program. Partnering with national leader Conservation Services Group (CSG), this program is on track to deliver 25% annual energy savings in a number of Maine residences in 2010 and 2011.

Maine is also leading the nation in other initiatives recognized by efficiency policy experts as crucial for long term success:

- ☐ Maine was one of the first states to enact mandatory building and energy codes for new structures, taking effect in June, 2010.
- ☐ In 2009 the Legislature directed the Public Utilities Commission to establish building energy standards for existing structures and to promote building ratings – another nation-leading initiative.
- ☐ Maine also established a 2009 task force to thoroughly examine “on-bill financing” as a tool for delivering energy efficiency, with a report due shortly that will include strong recommendations from participating agencies and supportive utilities in the State.
- ☐ Maine is the first state to require green building standards in all new affordable multi-family housing.
- ☐ MaineHousing has taken the lead in developing a system to capture and aggregate carbon savings from weatherizing low income homes.

Finally, the Retrofit Ramp-up weatherization goals cannot be separated from the twin objective of creating good jobs that will last into the future. Maine has years of experience developing the retrofit profession, both through MaineHousing’s low income weatherization programs and through Efficiency Maine’s Maine Home Performance program. The workforce, agencies and entrepreneurial community have organized themselves into a strong professional association supporting individual participants and working closely with the State. The Community Colleges and Maine Department of Labor are deeply supportive. In short, Maine is on course to ensure that a major benefit of the Retrofit Ramp-up is sustainable workforce development that provides high quality jobs in the building analysis and retrofit sectors.

Three Game-Changing Elements That Will Multiply The Impact Of State Weatherization Programs In Maine

The missing part in Maine's residential weatherization efforts is a seamless financing option that eliminates up front costs and delivers immediate savings to the homeowner. Retrofit Ramp-up funding presents an enormous opportunity for Maine to fill that void, successfully demonstrating the innovative solutions that will lead the nation in residential efficiency while creating thousands of new high-quality jobs.

The Vice President's Middle Class Task Force, joined by national advocates such as Liuna and the Sierra Club, have articulated a compelling call for innovation in financing. Maine's proposal answers that call with the following game changing elements:

1. Financing Options That Draw On Strong Partnerships

We have spent years in Maine developing strong partnerships with the professional energy auditing and weatherization community, educational institutions, labor, financial institutions, and energy providers. Most recently we have selected Conservation Services Group to deliver our Maine Home Performance Program, through which we offer a one-stop-shopping approach to delivering a cost effective audit/retrofit program.

Although we have already begun to address the financing option in Maine with our innovative Loan Guarantee program, we can significantly expand our retrofit programs if we can access the necessary capital. This Retrofit Ramp-up grant is the final step to make Maine the perfect national laboratory for testing four financial models:

a. Partnering With Communities. The keystone to Maine's proposal is a bold initiative to capitalize local PACE programs. A central revolving loan fund will allow cities and towns of all sizes to participate in a low-cost turn-key approach to property assessed financing and repayment of building retrofit costs. Using the Maine Home Performance program developed by Conservation Services Group as the implementation platform and building on its high-quality retrofit delivery model, many communities are ready to launch PACE programs immediately upon approval of this grant. Even before the Retrofit Ramp-up was announced, Maine's legislature was moving forward with legislation to confirm that all Maine municipalities may use PACE financing. That legislation has strong support and is expected to be enacted shortly after the Second Session of the Legislature convenes on January 5, 2010. (See letters of support from Speaker of the House Hannah Pingree and Senate President Elizabeth Mitchell and from State Representative Patsy Crockett with attached legislation.)

b. Partnering with Homeowners. For towns not yet adopting the PACE approach, a portion of the grant funds will be loaned to customers through our existing Maine Home Performance program. These easy access loans will be made available through our one-stop-shop hotline giving customers the option of a retrofit at no up front cost and a conventional monthly payment.

c. Partnering With Financial Institutions. Maine's existing retrofit initiative includes a loan program in which 50% of the costs of weatherization are backed by a Maine State Housing Authority guarantee. Participating banks and credit unions have agreed to market retrofits as part of their existing home repair, home equity, mortgage and refinance products. Maine's loan guarantee and marketing support for weatherization act together as an incentive for banks to encourage their customers to add a weatherization component to their home loans.

d. Partnering With Unregulated Fuel Suppliers and Utilities. Utilities and sellers of unregulated fuels understand the implications of energy efficiency and greenhouse gas reductions for their business models, and have expressed a strong interest in partnering with the state as we move toward the statutory goal of reducing heating oil consumption by 20% by the year 2030, electricity consumption by 100 megawatts by 2020, and implementing greenhouse gas reduction programs wherever feasible. Maine's Retrofit Ramp-up proposal will include funding to develop on-bill financing pilot projects with willing fuel suppliers to test the application of this option in Maine and to build on the results of the on-bill financing working group established by the legislature.

2. Sustainability

The FOA challenges the nation to identify approaches that will successfully leverage DOE funding to ensure sustainability of the proposed programs beyond the term of the grant. Maine meets that challenge with a clear and compelling solution. We will achieve financial sustainability through a revolving loan fund, called the Maine Home Performance Fund, and homeowner incentives maintained, in part, through revenues generated from quantifying and monetizing greenhouse gas reductions (carbon savings) from the weatherization activities in the program. Our sustainability strategy uses grant funds to subsidize retrofits for the first three years of the program. The fund will be accessible to towns, regions, utilities and unregulated fuel dealers who wish to initiate a PACE or on-bill financing program, who partner with the Maine Home Performance delivery platform, and who can meet basic performance and data gathering criteria.

A key to our long term sustainability strategy is the capacity to accurately document energy and carbon savings so as to educate homeowners and investors about the financial advantages of retrofitting. Private investors, whether participating through bonds or equity financing, will be induced to invest once they see well documented, verifiable information about the value of energy savings, the carbon benefits, and the financial performance of the retrofit program over several years.

By using grant funds as a revolving loan fund, we will generate enough revenue and program performance data to support the issuance of revenue bonds in year three of the program. As set forth in detail below, our conservative financial analysis demonstrates how Maine can continue the program beyond the initial grant period by issuing bonds for sixteen additional years, retrofitting 67,750 homes.

3. A Carbon Market-Ready Program:

A final game changing aspect of our proposal is that we will quantify and monetize carbon emission savings and use the carbon revenue to sustain the homeowner incentives for weatherization. Maine has worked for the past 18 months on the development of the *Methodology for the Weatherization of Single and Multi-Family Buildings*, with input from weatherization experts across the country, including international carbon experts and DOE's Oakridge National Laboratory, which supports the Weatherization Assistance Program. Data required for carbon quantification will be maintained in the ECOS data base which is specifically tailored to capture the data necessary to verify and monetize the carbon savings. We have worked over the past several years to build not only the carbon quantification methodology, but the infrastructure and understanding to participate successfully in the carbon market. It is no exaggeration to say that Maine leads the nation in developing the infrastructure to incorporate carbon into its plan to convert to a low carbon, energy efficient economy.

Being able to provide accurate, verifiable data is a threshold criterion for accessing carbon markets and for gaining private investor support. This grant will enable us to take our data

capture and verification system from the final development stage to full implementation, and from the low income arena to the entire population. The methodology enables us to deploy several different data gathering methods, including pre- and post-audit building analysis, direct fuel consumption sampling, and records of actual fuel utilization. Our experience will establish for the nation a model demonstrating the most accurate and cost effective approach to measuring and monetizing carbon savings for future public benefit.

Importantly, as noted above, revenue from the sale of carbon credits will provide on-going support for the Retrofit Ramp-Up program, making it sustainable and expandable. Although it is impossible to predict the value of carbon emission reductions in the future, estimates indicate as much as ten percent of the cost of weatherization could be supplied by the quantification and sale of carbon emission reductions.

How Maine Will Deploy Grant Funds

Sixty percent of funds will be re-granted to non formula eligible communities to fund retrofits and provide administrative and marketing support. The remaining forty percent will support formula eligible towns and cities; expand our existing bank financing program; and support pilot projects for on-bill financing through regulated and unregulated energy providers. Other uses are as follows:

- A portion of grant funds will build out our existing ECOS data clearinghouse to accommodate the expanded retrofit Ramp-up program. Grant funds will also be used to implement measurement and verification protocols and test data collection and monitoring methodologies in order to establish best practices that can be shared with other jurisdictions.
- Marketing, advertising and outreach are important tools for maximizing homeowner participation in the retrofit program and gaining additional energy savings through homeowner education. Learning from the examples of Marshfield, Massachusetts and elsewhere, we will rely on partnering communities to conduct grass roots public outreach to achieve the depth of penetration in communities envisioned by the FOA. This grant will provide funding to support those communities with marketing materials, public service announcements, a multijurisdictional PACE steering committee, face-to-face engagement of civic leaders and other stakeholders, and an annual energy efficiency conference.
- Maine also has a unique opportunity to use Retrofit Ramp-up grant funds to support an extraordinary pilot project. A consortium of towns in the Biddeford-Saco region has developed a cutting edge package that includes community based energy efficiency retrofits leveraged by renewables and comprehensive cost-savings measures. As described in more detail below and in attached letters of support, the Maine Green Energy Alliance sub-grant will support a partnership among communities, businesses, Citizens Energy, and other collaborators that is completely shovel-ready and perfectly tailored to the goals of the Retrofit Ramp-up FOA.¹

Scalability

Maine's program has all the features that will enable it to be brought to scale in Maine and expand it to other states.

- Maine's proposal tests four distinct financing models which we will carefully evaluate and analyze for the benefit of other entities contemplating similar programs around the nation. Each model can be expanded to any size market or community.

- Our proposal includes developing and publishing a guidance document (the Carbon Cookbook) that will allow other entities to become “Carbon Market Ready”. As more entities quantify carbon savings, the carbon revenues will become significant.
- Finally, through this grant Maine will establish a solid foundation of experience including delivery models, marketing strategies, financing models, and data collection methodologies. Once this foundation is established, retrofit programs here and in other states can be scaled up without further federal funding to achieve the national carbon reduction and weatherization goals set forth in the Vice President’s report *Recovery Through Retrofit*.

Low Income Participation

Efficiency Maine and MaineHousing are acutely aware of the weatherization needs of low income Maine homeowners. Maine has one of the highest rates of homeownership in the country and 39% of homes are eligible for low income programs. This fact, along with Maine’s aging housing stock and high cost fuel, shows the great potential value of retrofitting low income homes. The re-grants for PACE communities and the one-stop-shopping loan pool are structured to serve all incomes. We incorporate both a 10-year and a 20-year amortization period to allow a broader range of homeowners to participate in these funding mechanisms.

II. Project Goals and Objectives

Our project objectives address each of the major hurdles that home weatherization programs here and elsewhere have faced. Taken together, our project objectives will result in a robust, sustainable retrofit program that is scalable and replicable in other jurisdictions. Our project objectives are:

1. Financing: To launch and implement the Maine Home Performance Fund as a cost-effective source of financing for residential retrofits statewide. The fund will be accessible to communities that initiate PACE programs, to regulated and unregulated fuel suppliers who initiate on-bill financing programs, and to individual homeowners through the Maine Home Performance Program.

2. Home Retrofits: To retrofit 4000 homes per year for 16 years, in addition to the retrofits already offered in our existing programs, with retrofits resulting in an average of 25% energy savings per home. We will accomplish this through marketing, local outreach, homeowner incentives, and a variety of financing options that homeowners can choose from.

3. Sustainability: To sustain funding of \$32m per year for fourteen years beyond the grant period to support home retrofits. We will accomplish this by establishing track record of program performance based on gathering and aggregating data that will prove the value of weatherization and attract investors who will support the program beyond the grant period.

4. Scalability and Replicability: To develop best practices and share guidance with other jurisdictions on how to develop, deliver and document a residential retrofit program that is carbon market ready and private investment ready. We will accomplish this by evaluating the financial performance of homeowner financing options, evaluating the effectiveness of marketing and outreach programs and by establishing best practices for quantifying energy and carbon savings.

III. Why Federal Funds Are Needed

This Funding Opportunity is perfectly tailored for the weatherization needs of Maine in 2010. As set forth throughout this application, we have already established exactly the necessary platform for proving the “game-changing” financing concepts that will identify the sustainable model that will take the nation into the next generation of residential energy efficiency. As a relatively poor state experiencing a prolonged recession, all that Maine lacks is the necessary start-up capital, and the Retrofit Ramp-up opportunity would fill that gap perfectly. Fund from this grant will enable us to take the platform we have developed and scale it up to a statewide program available to homeowners at every income level. We cannot envision any source of funding that would better enable Maine to play the role of a laboratory for the nation.

IV. Merit Criteria Discussion

Merit Criterion 1. Leverage and Sustainability

Maine Home Performance Fund

The primary leverage and sustainability of our program comes from the establishment of the Maine Home Performance Fund, a revolving loan fund offered to Maine homeowners through a variety of channels and funded through the EECBG Retrofit Ramp-up. By seeding the fund with grant money, we will be able to establish a track record of performance that will allow us issue public bond funds beginning in year three. Beginning in year three, six bond issues are planned over a fourteen year period, which will generate \$384 million. Additional matching funds will come from investments we have made in our existing home weatherization programs, our ECOS data system and our state loan guarantee. The total grant to match leverage ratio is 1:8.

Item	Grant Budget	Grant Leverage	Related Programs
Maine Performance Loan Fund	\$57,400,000	\$384,000,000	
Banks and Credit Unions			\$100,000,000
State Loan Guarantee			\$5,000,000
Monitoring and Verification	\$2,000,000		
Administration: state	\$5,900,000		
Administration: local	\$1,600,000		
Carbon Management	\$1,300,000	\$299,735	\$1,000,000
Biddeford Sub-award	\$6,499,619	\$64,542,400	
CSG Marketing and Program Support (SEP Funding)			\$9,000,000
WAP and LIHEAP			\$42,000,000
Total Grant Request:	\$74,699,619	\$448,842,135	\$157,000,000

Leverage

The Maine Performance Loan Fund will be established with \$57.4 million of the Retrofit Ramp-Up grant award. This initial \$57.4 million will fund weatherization loans for 7,175 homes over a two-year period. The revenues from repayments on loans made from this original \$57.4 million asset base (called the Grant Funded Program) will provide the subsidy to generate an additional \$384 million in weatherization proceeds through six bond issues (called the Bond Funded Program) over years three through 14 of this initiative. There will be 4,000 weatherization loans made each year in years three through 14 for a 14-year total of 55,175 weatherization loans. The

TOTAL ALL PROGRAMS		GRANT FUNDED PROGRAM							BOND FUNDED PROGRAM		
Year	# of New Retrofits	Original Loan Balance	Loan Repay	Admin Fees	Prepayments	Cash Flow	Withdraw to Bond Funded Program	Ending Balance	Par Amount of New Issue	Deposit from Grant Funded Program	Lendable Proceeds
1	3,175	25,400,000	3,230,880	396,875	0	2,834,005	0	2,834,005			
2	4,000	57,400,000	7,301,280	896,875	0	6,404,405	0	9,238,410			
3	4,000	57,400,000	7,301,280	896,875	2,880,000	9,284,405	12,000,000	6,522,815	52,000,000	12,000,000	64,000,000
4	4,000	54,520,000	6,934,944	851,875	2,880,000	8,963,069	0	15,485,884			
5	4,000	51,640,000	6,568,608	806,875	2,880,000	8,641,733	12,000,000	12,127,617	52,000,000	12,000,000	64,000,000
6	4,000	48,760,000	6,202,272	761,875	2,880,000	8,320,397	0	20,448,014			
7	4,000	45,880,000	5,835,936	716,875	2,880,000	7,999,061	12,000,000	16,447,075	52,000,000	12,000,000	64,000,000
8	4,000	43,000,000	5,469,600	671,875	2,880,000	7,677,725	0	24,124,800			
9	4,000	40,120,000	5,103,264	626,875	2,880,000	7,356,389	12,000,000	19,481,189	52,000,000	12,000,000	64,000,000
10	4,000	37,240,000	4,736,928	581,875	2,880,000	7,035,053	0	26,516,242			
11	4,000	0	4,370,592	0	0	0	12,000,000	14,516,242	52,000,000	12,000,000	64,000,000
12	4,000	0	0	0	0	0	0	14,516,242			
13	4,000	0	0	0	0	0	12,000,000	2,516,242	52,000,000	12,000,000	64,000,000
14	4,000	0	0	0	0	0	0	2,516,242			

Assumptions:

1. 2 year origination period to make 7,175 loans from Grant.
2. Average loan is \$8,000 at 5% for 10 years.
3. Servicing/Admin fee is \$125/loan per year.
4. Beginning in Year 3, 5% of the loans prepay each year.
5. The \$12,000,000 draws are to fund \$64 Million bond programs in years 3, 5, 7, 9, 11, & 13.

loans shown in the attached model are 5.00%, 10-year level payment loans. Some loans will be made with 20-year maturities as well. The average loan will be \$8,000.

After the first two years (once the Grant Funded Program assets are spent down on the first 7,175 weatherization loans), the Maine Performance Loan Fund will be capitalized with proceeds from the sale of mortgage revenue bonds blended with revenue withdrawn from the Grant Funded Program. The bonds will be a blend of tax-exempt and taxable bonds. The tax-exempt proceeds will be allocated to homes with household incomes under 115% of the area median income.

The cash flow from the Grant Funded Program will allow \$12 million to be withdrawn in years three, five, seven, nine, eleven, and thirteen to support a \$52 million bond issue in each of those years. The two sources combined will allow for \$64 million to be loaned over each two-year period. Delaying the initial bond issue for two years will minimize the overall interest expense and allow for the establishment of the necessary servicing and administration infrastructure as well as allow us to establish loan repayment history. These will likely result in a higher bond rating and lower borrowing costs. The \$12 million in cash flow will pay for servicing and administrative costs during the bond-funded program as well as provide for a reasonable debt service coverage ratio. This will allow the loan rate during the Bond Funded Program to be as low as the bond issuance rate. Each of the \$64 million capitalizations would cash flow as follows:

Original Loan Principal	Annual Revenue from \$64 Million in 10 year 5% loans	Debt Service on \$52 Million	Servicing/ Admin	Annual Surplus Cash
\$64,000,000	\$8,140,000	\$6,670,000	\$1,000,000	\$470,000

The \$470,000 surplus annual cash flow would be needed to pass rating agency stress tests for a rating in the 'A' category. Loan prepayments in the Bond Funded Program will be used to retire bonds. Such prepayments will strengthen cash flows. The net revenue from the 5.00% loans, after servicing fees, will be less than the annual debt service on the 5.00% bonds. The grant award generates the following sources of leverage:

- Principle and interest payments from the revolving loan fund.
- Revenue bond issued in year three Q1 selling the first two years of loans.
- Private match from the MERC project in the first quarter of Years 2 and 3.
- Sale of carbon offsets in Q4 of year 3.

Merit Criterion 2. Project Impact

Our proposal is designed to achieve economies of scale by making it possible for multiple towns, regions and energy suppliers to accomplish retrofits by accessing the Maine Home Performance Fund for financing, and by using the retrofit services provided through Conservation Services group. By standardizing our weatherization "product" in this way, it is possible to scale up the number of houses retrofitted and keep the administrative costs to a minimum. Risk of default on loans will be mitigated through PACE programs in participating communities, and through the state guarantee on bank loans.

The quantitative impact of this award will stretch on for 13 years past the grant period as a total of 55,175 houses are retrofitted, saving those households \$441 million in heating fuel expenses. We believe that these projections are reasonable, because even though demand for retrofits is rising, we have projected retrofits at a steady 4000 homes per year. In this difficult economy, homeowners in Maine are now looking for ways to save on their heating bill. If heating oil prices

increase during the 16 years of this project, as we expect, demand for retrofits will grow even stronger.

There are 460 jobs created with this grant on the first year and then 344 jobs a year every year for 15 years. The attached impact table begins to capture these effects as revenue bond funds circulate back into the fund in years 3 and 5.

The emission of 1.478 million tons of carbon is avoided through this project. Our team has developed an innovative approach to capturing and monetizing these carbon reductions and our estimates show that carbon revenues can bring in \$22.5 million during the sixteen year life of the Maine Home Performance Fund. Carbon revenues can be used to support homeowner incentives in the early years and to support additional retrofits in later years, as revenues rise.

As mentioned in our Executive Summary, our program is not only replicable, we believe it will become the model for other rural states and regions to emulate. In areas where small cities and towns predominate, the only way to run a cost effective retrofit program is to achieve economies of scale by creating a turnkey program such as the one proposed here, that minimizes costs and is easy and convenient for towns to join.

Merit Criterion 3. Project Approach

1. Homeowners

A fundamental objective of the Retrofit Ramp-up is to provide homeowners a convenient way to save on their heating bill with no upfront cost. For this reason, we have initiated the four financing and payment options outlined above.

The program will work as follows: The Maine Home Performance delivery team and call center, already operating in Maine, will be trained to direct customers to appropriate financing options. For callers in PACE-participating towns, the customer will be qualified for financing simply and easily during the initial phone call. The caller will be also be connected with one or more CSG-approved auditors and installers from the area, and the visits will be scheduled as well.

Through the CSG delivery program, a contractor will arrange an installation that achieves at least 20% total energy savings or 25% heating fuel savings. The homeowner will never see a bill. Instead, an incremental assessment based on the cost of the installation will be attached to the property bill for that address. The homeowner will choose to pay the added assessment over twenty years or over ten years. If the homeowner sells the home, the added assessment would remain with the property. At any time the owner may pre-pay the balance of the financing remaining.

Eighty percent of Maine homes are heated with costly home heating oil, and we have devised the Maine Home Performance program to ensure that the average homeowner will save between 200 and 300 gallons each winter. Assuming a cost of \$3 per gallon, that amounts to \$600 to \$750 dollars savings per year. A homeowner choosing the 10 year repayment might see a very slight net cost increase during those ten years, and then enjoy the full value of the savings. The typical homeowner choosing the 20 year repayment would see net savings immediately.

The town would gather the tax bill add-ons and remit them to the Maine Home Performance Fund periodically. The Maine Home Performance Fund would distribute funds to the towns for use in the up-front cost of weatherizing homes in that town.

In addition to PACE and other financing options and convenient one-stop service, the first 4000 participating homeowners in the existing CSG program are eligible for cash rebates of \$1500 (for

25% energy savings) or \$3000 (for 50% energy savings). This program has just begun and will be in place through our separately-funded Maine Home Performance Program for the first year (or more) of the Retrofit Ramp-up program, depending on participation rates.

2. Cities and Towns

All Maine Cities and Towns will have equal access to our Maine Home Performance Fund to support Property Assessed Clean Energy (PACE) programs. Creating a single Fund instead of multiple funds in individual towns creates economies of scale and greatly reduces administrative costs, making it cost effective for even the smallest Maine towns to offer a PACE program if they so choose.

In these tough economic times, many towns are reluctant to issue debt to support a PACE program. This is another reason why using Retrofit Ramp-up funds to seed a central revolving loan fund makes perfect sense. Towns want to serve their citizens and they want to save energy. But they don't want to take the risk of selling bonds and adding debt service and administrative cost to their budgets. We believe that a turn-key approach to providing citizens with a PACE-based retrofit program will be highly appealing to Maine cities and towns.

In order to participate in the Maine Home Performance Fund, towns must (1) agree to use the one-stop Maine Home Performance Program with its certified installation program and quality control to deliver the retrofits; (2) have a PACE ordinance or other authorization in place; and (3) have a demonstrated commitment to local marketing and outreach. Any town that meets these three criteria will be eligible to participate in the Maine Home Performance Fund. The application process to receive funds from the Maine Home Performance Fund will be designed to deploy funds to qualifying towns as soon as possible, consistent with the highest possible accountability.

Participating cities and towns will be granted an initial, renewable allocation of \$200,000 from the Maine Home Performance Fund to pay for home retrofits within their jurisdictions. This initial fund will be replenished as needed. This performance-based model will assure that funds are allocated to those jurisdictions where retrofits are being completed and not sitting idle in towns that are not experiencing success in attracting homeowners to the program.

3. Contractors and Auditors

Public confidence in the quality of work available through Maine Home Performance is absolutely vital to Maine's program. Maine already has an impressive workforce of just over 500 contractors and auditors who are well-trained and eager to implement the Retrofit Ramp-up. The Maine Association of Building Energy Professionals (see attached letter of support) has organized the professionals in the Weatherization Assistance Program and in the Maine Home Performance Program into a strong and effective association, dedicated to ensuring a good fit between the supply of professional resources and the growing market demand for auditing and installation services.

These contractors are already engaged in delivering the Maine Home Performance program through Conservation Services Group. The partnership between MaineHousing, Efficiency Maine, and CSG will establish firm professional standards for auditing, installation, and post-installation test-out. We are prepared to support the training needed to build this workforce to meet the demand. Current Maine wages for these positions are approximately equal to the prevailing wage under Davis Bacon. We expect wages and benefits to rise as the demand for weatherization accelerates. This is where we expect the bulk of the job creation in Maine to occur – among trained and certified auditors and installation workers.

MaineHousing and Efficiency Maine alike have agreed to establish a single unified professional standard and to apply that standard in the Retrofit Ramp-up program. While we are awaiting

DOE guidance on a national standard, Efficiency Maine is moving toward the BPI standard and is working closely with Conservation Services Group which has deep experience with BPI. MaineHousing is also working toward a national standard. Together we are developing training and experience-based programs to serve the hundreds of professionals that will be needed in this sector.

By July, 2010 all Maine contractors participating in the Maine Home Performance program must be certified to a national standard. Since the Retrofit Ramp-up program in Maine will use the Maine Home Performance program as its delivery platform, all Retrofit Ramp-up contractors will also be held to a single national standard. As set forth below, a key component of our existing program is to provide the training and experience so that all professionals have every opportunity to obtain the skills, experience and knowledge they will need and to satisfy applicable certification requirements.

4. Capturing and Aggregating Data

The capacity to collect and aggregate data in a centralized database is an essential component of Maine's proposal. We keenly understand that thoroughly tested and reliable data collection protocols and systems are a prerequisite for both the carbon and financial markets we intend to enter.

Once again, Maine already has significant data collection experience and need only expand and adjust existing systems to meet the needs of the Retrofit Ramp-up. In consulting our Information Technology experts for this proposal, we learned that integrating multiple systems is the most robust approach. Maine now has access to the Real Home Analyzer data system through Conservation Services Group. This state-of-the-art data system is fully equipped and ready to fulfill the task of capturing energy savings. Overlapping that data set, we will deploy BTU monitoring systems in hundreds of homes, providing an independent double-check on energy savings projections. A third layer of verification is through a comprehensive measurement and verification protocol, testing a substantial portion of homes for real energy savings following installation.

From there the data will travel seamlessly to the Energy Conservation Operating System (ECOS), which is located at Maine Housing and currently capturing data from our low income weatherization program. The ECOS system will be expanded using grant funds to capture carbon emissions savings from non low income and commercial buildings and create the kinds of reports required for carbon verification and monetization

Finally, for institutional investors the record of municipal collections through the PACE property assessment system will be of great interest and will form the basis for future investment decisions. As a condition of participating, all PACE towns will be connected with the centralized service center, which in turn will document the life of every home financing agreement. We will manage the program in the start-up years to generate investment-grade repayment data, which we expect will show the PACE system collecting at or very close to 100% of its expected payments from homeowners. This data will allow these repayment streams to be bundled or aggregated for future investment purposes.

5. Sub Award to the Maine Green Energy Alliance

To further diversify our program, we will sub-award \$6.6M to four municipalities through the non-profit organization they have formed: the Maine Green Energy Alliance. This collaborative alliance of four towns (Biddeford, Saco, Westbrook and Old Town) evolved from a task force created by Governor Baldacci in April 2009. They have developed a unique and innovative program that will transform the energy market in their region. Their program combines local renewable energy generation with energy efficiency and conservation programs to achieve greater

market penetration in their region. All four towns are eager to participate in the PACE program set forth in this application.

A central feature of their program is to retrofit homes and a large mill facility through the Maine Home Performance Program described here. As an added incentive for homeowners, they will offer discounted electricity pricing to homeowners who complete a retrofit, by forming a new Community Energy Cooperative. This discounted renewable energy feature opens a new and powerful way to motivate citizens to weatherize their homes. In addition, the program provides for the delivery of locally generated off-peak power that will enable and promote efficient electric thermal storage and other efficient electricity technologies that can displace non-renewable high carbon heating fuels.

The Alliance will retrofit an aging trash-to-energy incinerator so that it becomes a state of the art source of combined heat and power. They will establish a new sorting and recycling center to support the incinerator that will double the amount of material recycled and yield a much cleaner fuel for burning. The power from the upgraded incinerator will be available to consumers in the region.

Taken together, the Alliance project combines energy efficiency and renewable generation in a unique and powerful way that will transform the energy market in the region. Their project is also a high visibility replicable model for other jurisdictions where local government, a utility and a renewable energy generator are willing to collaborate. We look forward to partnering with this group and supporting their effort to be a model for other communities and regions across the state.

6. Management Structure & Strategy

The leadership behind Maine's proposal begins with Governor John Baldacci and the entire Maine Legislature, who have firmly committed the state to weatherizing all homes over the next twenty years.

Supporting that leadership is an outstanding and deeply experienced management team that is lead by a strong partnership between two vital state energy efficiency agencies – MaineHousing and Efficiency Maine.¹

Both agencies have long experience working in partnership with organizations, professional associations, businesses, communities and other institutions across the state. Just last month Efficiency Maine embarked on an unprecedented partnership with Conservation Services Group to deliver residential energy efficiency programs funded through ARRA in Maine. Our strong partnership with CSG will provide the technical excellence and highly competent administrative platform for the delivery of weatherization through a cost-effective and accountable program of the highest national standards which is *already in place and ready to grow*.

The innovative financing of the Maine Home Performance Fund will be entrusted to the experienced management of Adam Krea, Deputy Director of MaineHousing. Together with his team at MaineHousing, Adam offers unsurpassed expertise on long term financing models, illustrated by the carefully crafted MHPF in this proposal.

¹ On July 1, 2010 Efficiency Maine will be re-established as the Efficiency Maine Trust, and this program (if awarded) will be transferred to the EMT, benefiting from the expanded public commitment and administrative autonomy of this new agency.

Even a proposal as elegant and straightforward as the Maine Home Performance Fund (MHPF) will require administrative support. Funding for the costs of the MHPF bond program are built into the funding models. In addition, the proposal sets aside funding for a single statewide “service center” to eliminate excessive administrative burdens on municipalities to encourage their participation in the PACE option. This service center will operate under close direction and control of the state agency partners, ensuring the timely and accurate flow of funding from the MHPF to municipalities and in turn from municipalities to Maine Home Performance participating contractors weatherizing homes in those towns.

A separate component of the service center will periodically collect the property tax “add-ons” from town tax assessors and remit those back to the MHPF, keeping municipalities whole and ensuring that program finances are completely watertight. Municipalities will receive direct funding from the EECBG grant for staffing they may need to add to oversee the program locally, as well as technical support. An analogous function will be provided to support on-bill financing through energy supply companies or other entities that opt in to the program.

7. Outreach and Marketing

Through long experience, the partnership behind this proposal understands the crucial role of marketing and messaging coordination. To support this program we will allocate a portion of grant funds for a unique community based marketing effort to support those towns that opt to use the PACE model. We will also include financial support for towns to develop their own complimentary marketing to fit the unique circumstances of their communities. In fact, *demonstrating a strong commitment to community based marketing will be a requirement for any town seeking to participate in the MHPLF*. Maine Partners for Cool Communities also provides a strong network already engaged in the community based outreach at the heart of the Retrofit Ramp-up concept nationally.

In addition to granting marketing funds to assist communities, we will form a PACE Steering Committee comprised of local officials, local retrofit advocates and contractors who provide weatherization services. The purpose of the Steering Committee is to share successes and failures and provide a supportive, learning environment that will assure the success of these programs.

Community based marketing is a effective tool, and if a retrofit program is supported by trusted community leaders, it can become an even more powerful way to motivate homeowners. Studies show that in cases where a trusted authority endorses a home retrofit program, participation increases fourfold, over similar programs without such an endorsement. In our program we will use both the Governor’s endorsement and the endorsement of trusted local community leaders, as part of our plan to motivate homeowners.

Of course, our existing Maine Home Performance program will continue to educate consumers through proven channels, including the best customer contact center in the nation operated as a standard feature of the CSG program design. The full-service support is staffed with multilingual personnel, and includes customer inquiry management; scheduling appointments, inspections and contractor work; participant recruitment; satisfaction and general participant surveys; and information fulfillment. Efficiency Maine will bolster outreach and communication efforts through its existing well-supported marketing and advertising contract and the participation of local financial institutions.

8. Funding Structure

This proposal is based on a financially sound Maine Performance Loan Fund initially capitalized with \$57.4 million from the Retrofit Ramp-up award and subsequently capitalized through the

sale of mortgage revenue bonds and repayment revenue. The details of this innovative but fiscally conservative proposal are set forth in Criterion 1 above.

9. Monitoring, Measurement And Verification Plan/Quality Control

Achieving and maintaining quality in a program requires a multi-layered system including quality control (the internal systems at a contractor, vendor or trade ally level that identify and address issues internal to the organization) and quality assurance (the external systems employed by the Program administrator).

The existing Maine Home Performance and MaineHousing programs are already subject to the most rigorous quality control and measurement and verification protocols of any program in the nation. These protocols will be continued and expanded under the Retrofit Ramp-up.

In addition to the carbon capture verification program discussed above, our quality control will include clear standards of performance on the individual structure level; a mandatory inspection/installation/test out for each unit weatherized; careful attention to training and supervision; detailed tracking and reporting on existing cutting edge databases; random in-field quality assurance inspections; and a proven program of corrective procedures when necessary. Each of these is already an existing feature of Maine's ongoing partnership with CSG.

10. Goals/Tasks/Deliverables

Maine has established ambitious but achievable goals for this program – goals that can only be accomplished rapidly where the necessary groundwork has already been laid and the public commitment is crystal clear. The specific tasks and deliverables, including homes weatherized and jobs created per year, are set forth in detail in the financing section above, the attached budget and project impact table documents, and the timeline enclosed herein.

11. Removing Market and Regulatory Barriers

The very structure of the financing program set forth above is designed to address the market barrier of consumer reluctance to assume the burdens of conventional financing. With up-front financing and immediate energy savings, consumers in the majority of participating homes will see a net positive cash flow from the first day. The Marketing and Outreach plan described above is a second key part of the solution. On the regulatory side, PACE legislation has been drafted and has the support of the Legislature and the Governor. We expect the legislation to be signed by Governor Baldacci well before these grant funds are awarded. (The legislation is attached to the letter of support from Representative Crockett.)

12. Compliance With NEPA And All Applicable Federal Regulations

The Public Utilities Commission's Energy Programs Division has already implemented nearly \$37 million in ARRA funded programming during 2009, all of which has been done in compliance with all federal requirements. We will dedicate necessary resources and build on that work to ensure that our program and the work of sub-grantees are implemented in full compliance with the National Environmental Policy Act, the Davis-Bacon wage requirements, and all other applicable federal regulations.

13. Workforce

MaineHousing and Efficiency Maine have long been conducting the workforce training necessary to build a professional workforce to carry out inspections and installations for the Retrofit Ramp-up. We now have over 400 energy auditors and technicians trained. Along with the Community Colleges and independent training contractors, including some of the leading building science practitioners in the nation, Maine stands ready to expand our classroom teaching and further develop the on-the-job programs necessary to produce sufficient qualified professionals to carry out this work. MaineHousing, the State Department of Labor, and Efficiency Maine have been coordinating a labor “gap analysis” for several months, building the data and other systems to accurately match training programs with employment opportunities expected in the coming months. Adequate funding is already in place to jump-start any accelerated training that may be necessary in the first phase of the Retrofit Ramp-up. In short, few if any states have already taken the steps that Maine has taken to prepare a qualified workforce for the employment opportunities this program will generate.

Merit Criterion 4: Partnership Structure and Capabilities

Project Partners:

The three major partners applying for this grant are Efficiency Maine, a division of the Maine Public Utilities Commission; Maine Housing, Maine’s public sector bank for low income housing; and the Office of Governor John E. Baldacci. Partner details follow.

Efficiency Maine brings deep experience in energy efficiency, as they currently manage energy efficiency programs for the residential, business and commercial sectors. Efficiency Maine also manages three major revenue streams: a systems benefit charge on electricity, proceeds from carbon sales through the Regional Greenhouse Gas Initiative; and federal grant funds from the State Energy Program and the EECBG program, for a total of over \$60m. Efficiency Maine brings a solid foundation of experience and expertise in energy efficiency programs with which to manage and administer this EECBG project.

Maine Housing is well respected in the financial community and brings a multitude of relationships with banks and credit unions to the table. Maine Housing has recently established a state guarantee for 50% of the weatherization portion of home repair, home equity, refinance and mortgage loans made through Maine banks. Maine Housing developed the financial models for this proposal, and will serve as a financial advisor to this project, with a particular focus on developing the long term financial sustainability of the program. Maine Housing has also taken the lead nationally in weatherizing low income homes and establishing a methodology for quantifying greenhouse gas reductions from weatherization in order to sell carbon savings into the carbon market. With the funding provided by this project, Maine Housing will build and expand on the Carbon Quantification Project developed over the past 18 months. Maine Housing’s work will include integrating CSG and Maine Housing’s databases and developing monitoring and verification systems for energy and carbon savings.

The Governor’s Office together with the Governor’s Office of Energy Independence and Security and the State Planning Office has taken a strong interest in energy efficiency and pushed hard to ramp up home weatherization in Maine. The Governor will support legislation to enable PACE financing and will work with Efficiency Maine to support and promote all the activities under this grant.

Conservation Services Group (CSG) is a national firm with deep experience in delivering home weatherization programs. Maine recently signed a two-year renewable contract with CSG to deliver the Maine Home Performance Program. CSG brings to this project a sophisticated suite of

services including building analysis and homeowner education, a homeowner call center, and work order generation and project tracking. CSG will be tasked with coordinating the delivery of weatherization services for this project

The Maine Green Energy Alliance is a collaborative consisting of four municipalities: Biddeford, Saco, Westbrook and Old Town. The Alliance has been working together since early 2009 to develop an energy efficiency program. They have drafted legislation that will allow for PACE financing; they are working on local ordinances to implement PACE programs, they have a public outreach plan to stimulate interest in home retrofits, and they are working to develop additional incentives for participating homeowners. In addition to weatherization, the Alliance has a proposal to retrofit an existing waste to energy incinerator to provide combined heat and power and to create a local Community Energy Cooperative for the purpose of achieving discounted rates for local electric use. We look forward to partnering with the Alliance as an early adopter in our program

Many Maine cities and towns have contacted us about initiating energy efficiency programs. Our program is designed to be a partnership between the state and participating towns and we will provide technical and marketing support to towns that participate in our retrofit ramp-up program. Our revolving loan fund will be available to any town that meets three basic criteria: there is a local PACE ordinance in place, the town will work with Maine Home Performance to deliver the retrofits, and the town has a credible plan for community outreach. All PACE participating communities will be required to implement the Best Practices set forth in the Policy Framework for PACE Financing Programs.

Oil dealers and electric utilities have also expressed interest in working with us to develop energy efficiency programs, including one oil dealer who has approached us about establishing an on-bill financing program for its customers. We have built staff time into our project budget in order to work with these businesses to develop on-bill financing programs that can access the Maine Home Performance Fund.

Energy Auditors and contractors: Over the last two years Maine significantly ramped up its effort to train auditors and contractors, resulting in a workforce of over 400 trained professionals. More will be needed to meet the requirements of the Retrofit Ramp-up. The Maine Association of Building Efficiency Professionals, with representatives bringing experience from both Maine Home Performance and MaineHousing, will be a key partner. In addition, 2009 Maine Public Laws c. 372 directed Maine agencies no later than January 1, 2010 to assess energy efficiency workforce needs and develop a detailed plan “for providing classroom training, on-the-job training and other workforce development strategies to meet the identified needs.” Training for retrofit jobs is also a high priority of the Maine Home Performance program.

Project Team: Staff at Efficiency Maine who will be dedicated to this project include John Brautigam, Director; Tim Vrabel, Deputy Director; Andrew Meyer, Program Manager; Ian Burnes, Program Manager; Sam Nutter, Consultant with CSG; Sue Inches, State Planning Office, and Liaison with the Governor’s Office. Maine Housing staff who will be dedicated to this project include Dale McCormick, Director; Adam Krea, Deputy Director; Jo-Ann Choate, Weatherization Policy Advisor; Lucy Van Hook, Carbon Market Specialist Lynn Kinney, Consultant, Information Technology; and Cathy Lee, Consultant, National and international carbon markets. Resumes for all personnel listed are included with this proposal. **Sub-Awardee Team:** Peter Morelli, Development Director, City of Saco; James W. Bohlig, CEO, Casella Waste Systems; Brian G. Oliver, Regional Vice President, Casella Waste Systems; Kenneth Robbins, General Manager, Maine Energy Recovery Company; Peter D. Mills, Manager, Energy Ventures, LLC; Joseph S. Fitzpatrick, CEO, DG Clean Power, LLC; John Bubier, City Manager, Biddeford; Margaret Daigle, City Manager, Old Town

V. Project Plan and Timetable

Milestones and Performance Metrics. We also propose the following specific metrics as an accountability standard against which our performance may be measured and a quarterly spending plan. A comprehensive work plan appears on the next page.

Project Impact Metrics	During Project Years			Post Project Years		
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1 Buildings Retrofitted	3,175	4,000	4,000	4,000	4,000	4,000
2 Total square footage of buildings retrofitted	4,762,500	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
3 Average utilities savings (e.g. cost and fuel savings) achieved per unit retrofitted	\$652	\$690	\$723	\$765	\$795	\$818
4 Jobs created or retained	460	474	482	344	344	344
5 Average emissions reductions (MMT CO21) per unit	2.567E-06	2.567E-06	2.567E-06	2.57E-06	2.567E-06	2.567E-06
6 EECBG Funds Expended	\$39,977,412	\$34,422,207	\$0	\$0	\$0	\$0
7 Leveraged Funds and In-Kind Resources Expended	\$2,834,005	\$9,675,604	\$76,855,340	\$433,623	\$64,534,023	\$1,032,678

Notes: The average Maine home is 1500 sq. ft. Line 2 assumes 25% savings per home weatherized. Line 3 is based on heating oil forecasts in EIA's Annual Energy Outlook, March 2009. Line 4 is based on DOE's assumption of one job created per \$93,000 invested. Line 5 assumes that half of the bond proceeds (\$32,000,000) sold in years 3 and 5 will be used in years 4 and 6. Our retrofit program will target homes heated with #2 oil, which emits 22.384 pounds of CO2 per gallon. The leveraged funds in line 7 include principle and interest payments from the revolving loan fund; revenue bond issued in year 3 and 5 selling the loans made in the previous two years; private match from the Years 2 and 3; and sale of carbon offsets in year 3-6.

Quarterly Spend Plan

The quarterly funding plan, with leveraged funds, for the life of the grant is as follows:

	Federal	Leverage
Year 1 Q1	\$23,100,603	\$0
Year 1 Q2	\$6,175,603	\$944,668
Year 1 Q3	\$5,350,603	\$944,668
Year 1 Q4	\$5,350,603	\$944,668
Year 2 Q1	\$21,599,302	\$4,872,301
Year 2 Q2	\$3,774,302	\$1,601,101
Year 2 Q3	\$3,774,302	\$1,601,101
Year 2 Q4	\$5,674,683	\$1,601,101
Year 3 Q1	\$0	\$69,592,301
Year 3 Q2	\$0	\$2,321,101
Year 3 Q3	\$0	\$2,321,101
Year 3 Q4	\$0	\$2,620,836
Total	\$74,800,000	\$89,364,949

Maine Home Performance Retrofit Ramp-up Work Plan

	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Sep-13
MAINE HOME PERFORMANCE LOAN FUND																		
Integrate existing loan guarantee program																		
Financing partner discussions																		
Loan Financing Partner MOU																		
Select loan servicing provider																		
Program launch																		
Issue 1st revenue bonds																		
PACE																		
Enact PACE legislation																		
Form community Steering Committee																		
Technical support for local PACE ordinances																		
Program launch																		
ON BILL (oil dealers & other energy marketers)																		
Develop on-bill program																		
Enroll energy partners																		
Program launch																		
CARBON																		
Enhance existing carbon database																		
Finalize carbon M&V criteria																		
Carbon credit methodology approval																		
Program launch																		
Publish Program evaluation & guidance document																		
PROGRAM-WIDE																		
Develop marketing plan																		
Develop marketing materials																		
Workforce training/certification																		
Program launch																		
Retrofit homes																		
MAINE GREEN ENERGY ALLIANCE																		
Municipal adoption of PACE ordinances																		
Community energy groups formed																		
Community organizational support																		
Monitoring and reporting activities																		
Weatherization project deployment																		

VI. Relevance and Outcomes/Impacts

The proposal set forth herein is precisely tailored to meet the objectives of the FOA, namely, to deliver verified energy savings in communities through an innovative financing approach carefully constructed to be scalable and replicable across the country. The success of the MHPF will show that other communities can leverage significant funding to accomplish this vital national policy objective, while creating thousands of good jobs with good benefits and transforming the market for home energy efficiency improvements. Focusing the funds on PACE communities that are committed to the kind of direct, on-the-ground community organizing approach to market transformation will prove the value of this model and serve as a compelling example to the rest of Maine and the nation.

VII. Roles of Participants

The roles of staff and various partnering organizations appear under Merit Criterion 4.

VIII. American Recovery and Investment Act

Through our previously funded ARRA programs, the lead partners in this proposal – MaineHousing and Efficiency Maine – have already answered the call to promptly deploy ARRA funding, create jobs, and stimulate the economy. We have exceeded most states by a wide margin in our ability to put ARRA money to work effectively and efficiently, consistent with the broad goals of ARRA. Fortuitously, many towns in Maine were actively preparing for PACE-style financing well before the announcement of the Retrofit Ramp-up. The workforce is in place, and national partner Conservation Services Group is already on the ground in Maine with the infrastructure, program design, and personnel for an excellent weatherization delivery program.

As set forth elsewhere in more detail, the intensive expansion of retrofitting created by the Maine Home Performance Fund will generate 1416 new, high-quality jobs, with the economic benefits multiplying in the surrounding communities. Increased disposable income through energy savings for participating homeowners will further stimulate the economy and strengthen the recovery. Importantly, the sustainability of this program will ensure that these new jobs and other impacts are lasting, creating a reliable career path for Maine's eager but underemployed workforce.